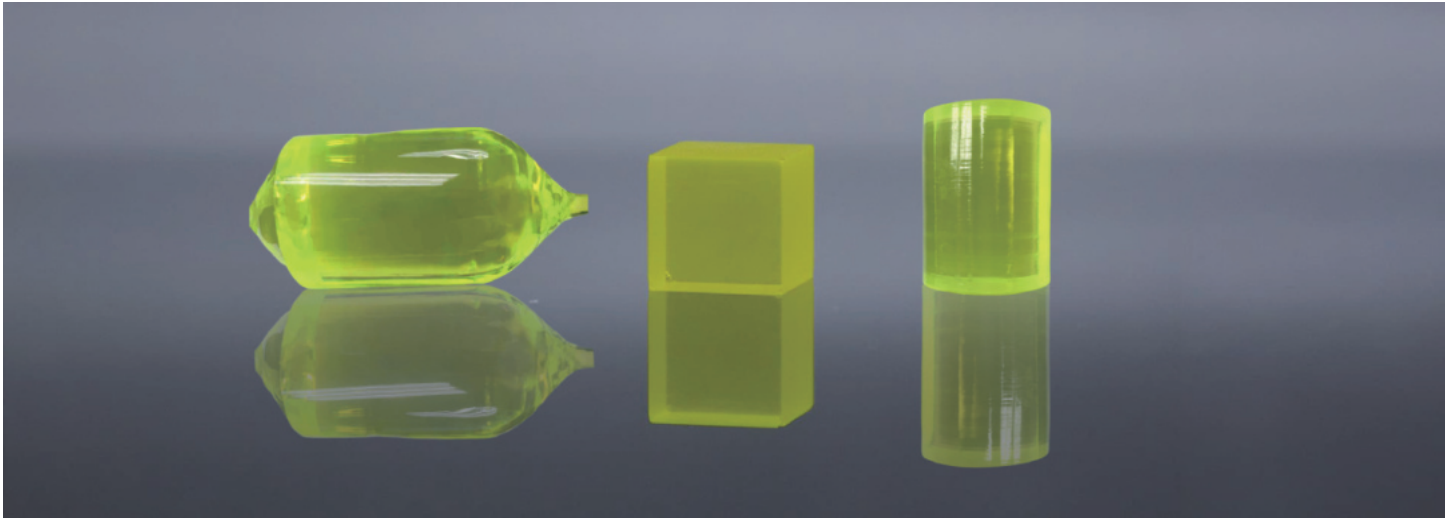


Ce:LuAG crystal scintillator crystals



DESCRIPTION

Ce: LuAG crystal (the chemical formula is $Ce: Lu_3Al_5O_{12}$) is a scintillation crystal with excellent scintillation properties. Its emission peak is located at 520nm-550nm, which matches well with the photomultiplier tube (PMT) and silicon photodiode (PD).

Ce: LuAG crystal shows stable physical and chemical properties, high thermal conductivity, High density and high effective atomic number, high light output, and fast decay time. Ce: LuAG crystals are widely used in photomultiplier tubes, scintillation screens and other devices to detect high-energy particles, such as α particles, β rays, and γ rays. Because of the excellent scintillation performance of Ce:LuAG crystal, it is widely used in CT, scanning electron microscope SEM and other equipment.

FEATURES

- High light output
- Fast decay time
- High density
- Excellent physical and chemical properties
- High energy resolution
- Good temperature resistance

APPLICATIONS

- PET
- XCT
- γ -detection
- X-ray detection
- Scintillation screens
- White LED lighting

PARAMETERS

SCINTILLATOR PROPERTIES

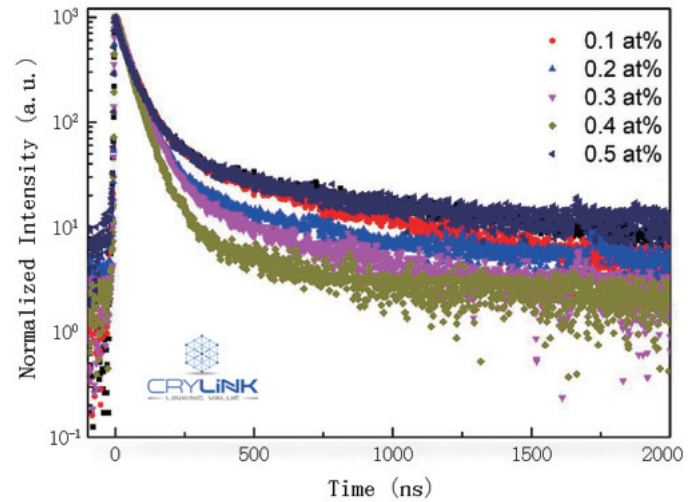
Wavelength (Max. emission) (nm)	535
Wavelength range (mm)	475-800
Decay time (ns)	70
Light yield (photons/keV)	25
Light output (photons/MeV)	25000
Radiation length (cm)	1.3
Optical transmission (μ m)	TBA
Transmittance (%)	TBA
Reflection loss/surface (%)	TBA
Light output relative to NAI(Tl) (%)	20
Energy resolution (%)	<8
Neutron capture cross-section (barns)	TBA



Ce:LuAG crystal scintillator crystals

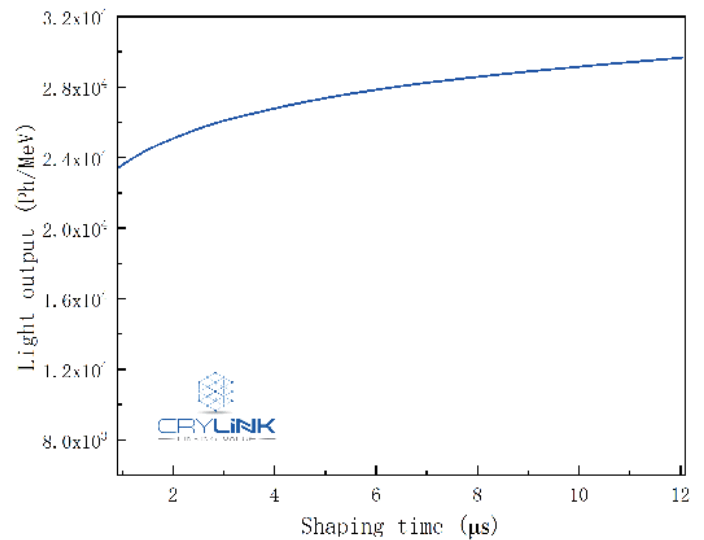
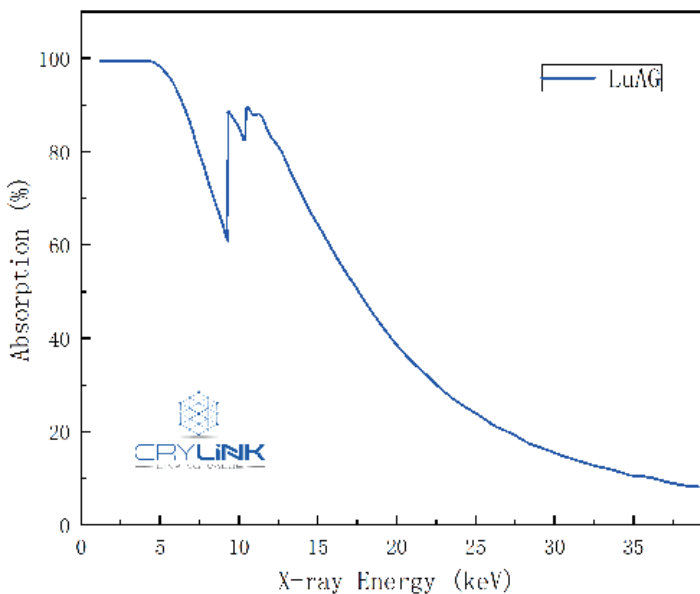
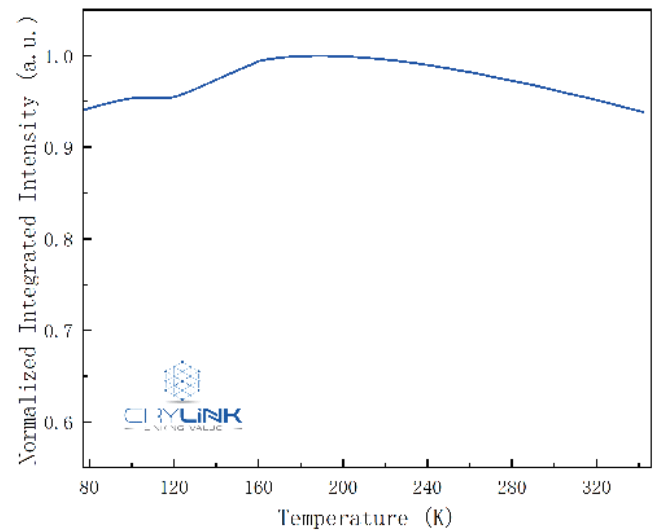
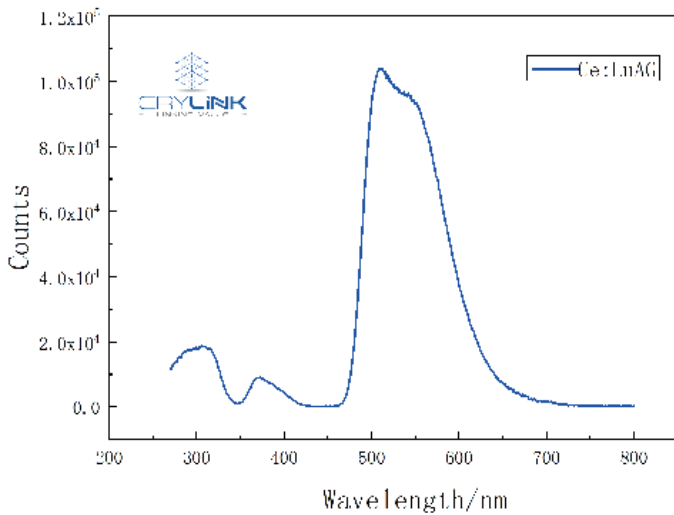
MATERIAL PROPERTIES

Chemical formula	Ce:Lu ₃ Al ₅ O ₁₂
Desity (g/cm ³)	6.73
Melting point (°C)	2020
Hardness (Mho)	8.5
Hygrosopic	No
Clesvage	No
Solubility (g/100gH ₂ O)	N/A
Thermal expansion coeff (C ⁻¹)	8.8*10 ⁻⁶



Scintillation decay curves of Ce:LuAG crystal after irradiation with 662 keV γ -rays from ¹³⁷Cs

SPECTRA



Light output value of LuAG:Ce measured at different time gates from 1-12 μ s

